

# Kathy Xu

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## EDUCATION

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**Georgia Institute of Technology**  
M.S. in Computer Science (GPA: 4.0/4.0)

Jan. 2023 - Dec. 2024  
Atlanta, GA

**Jilin University**  
B.S. in Physics

Sep. 2014 - Jul. 2018  
Changchun, China

## EXPERIENCE

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**One Community Global** (non-profit) (*GCP, React, Node.js, Redux, MongoDB, HTML, CSS*)  
*Software Engineer*

Jul. 2022 - May 2023  
Seattle, WA

- Developed a team management platform that streamlines the process of receiving weekly reports from team members, significantly reducing managerial workload.
- Utilized **Node.js**, **Express.js**, and **MongoDB** for back-end development, while leveraging **React**, **React Hooks**, **React Redux**, and **Axios** for front-end development.
- Implemented full CRUD operations, including creating, deleting, and editing teams, as well as adding team members and managers, and searching teams by name.
- Integrated **Google Cloud Platform** services, specifically using the **Gmail API** with **OAuth 2.0** authorization, to enable automatic weekly email updates of team members' summaries at a specified time, further improving the communication and efficiency of the team management process.
- Successfully reduced manager's workload by several hours and enhanced overall efficiency of the team management process.

## PROJECTS

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**Multithreaded Client - Server Application with Cache and Proxy Servers** (*Socket, POSIX, SysV*) Jan. 23 - Apr. 23

- Developed a multithreaded client-server application in **C**, using the pthread library to create multiple threads and the boss-worker pattern to handle multiple server requests simultaneously.
- Built proxy server and cache server utilizing shared memory with both **SysV** Shared Memory API and **POSIX** Shared Memory API to improve server performance by reducing the need to retrieve content from the original web server, and utilized the cache server to efficiently serve frequently requested content.
- Implemented mutual exclusion locks (**mutexes**) to prevent data inconsistencies due to race conditions.
- Added functionality to the server to respond to client requests for file downloads and data transfers using **curl** library.
- Successfully increased server efficiency and reduced wait times for clients by utilizing the cache server to serve frequently requested content.

**Project Management Tool** (*Java, Spring Boot, DynamoDB, AWS Elastic Beanstalk*)

Jan. 2022 - Apr. 2022

- Developed a Trello-like application utilizing Kanban boards for project representation, cards for task representation, and lists for tracking project statuses, enabling users to efficiently add or delete tasks.
- Implemented back-end REST APIs using **Spring Boot** for CRUD operations on **DynamoDB**, and designed a responsive web front-end using **ReactJS**.
- Successfully led the deployment of the application on **AWS Elastic Beanstalk**, ensuring a seamless and scalable user experience.

## SKILLS

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**Programming Languages:** Python, Java, SQL, JavaScript, R, C, C++

**Web Development:** GCP, AWS, React, Node.js, Express.js, Spring Boot, HTML, CSS

**Database & Technologies:** Spark, DynamoDB, MongoDB, MySQL, Git, Operation System, Multithreading

**Data Analysis & Machine Learning:** Pandas, NumPy, Matplotlib, Seaborn, Linear & Logistic Regression, Naive-Bayes